In a protocol stack assigned to the Iub-NB-interface, the following protocols are mainly processed: In the transport layer, the protocols, asynchronous transfer mode (ATM) and ATM adaptation layer type 2/5 (AAL2/5) for the user- and control level for internal and external connections; in the layer 1 the frame protocol (FP); in the layer 2 the protocols medium access control (MAC) and radio resource control (RLC) and in the layer 3 the protocol node B application part (NBAP) and the ATM AAL2 management protocol (ALCAP).

In a protocol stack assigned to the Iu/Iur-interface the following protocols are mainly processed: In the transport layer the protocols asynchronous transfer mode (ATM) and ATM adaptation layer type 2/5 (AAL2/5) of the user- and control level for internal and external connections; in the layer 1 the frame protocol (FP); in the layer 2 the service specific connection oriented protocol (SSCOP) and in the layer 3 the protocols radio access network application part (RANAP), radio access network subsystem application part and the ATM AAL2 management protocol (ALCAP).

The protocols of the transport layer and of the layers 1 and 2 are referred to as low level (LL) protocols and the protocols of the layer 3 as high level (HL) protocols. From the layer 3 to the transport layer the demands on a real time processing of the protocols are increased.

In accordance with the prior art, specific protocols within the RNCs are centrally allocated to boards, additionally provided for this purpose, with processors and are processed therein. The boards and/or processors are designed and optimised for processing the protocols which they are allocated. Thus for example it is known to allocate the protocols, diversity handover (DHO) and ATM adaptation layer type 2 (AAL2) to an extra dedicated board. The allocation takes place via a RNC switch. For the allocation, known from the prior art, of specific

protocols to dedicated boards, additional message transmissions (so-called hops) via the RNC switch are required in order to reach the other modules of the RNC which complete the respective protocol stack. The additional message transmissions (hops) cost computing time and system resources. The other protocols are processed on standard processor boards.

This arrangement is difficult to scale and sufficient redundancy can be achieved only by means of a complex and cost-intensive multiple design of the extra dedicated boards.

The object of the present invention is to accelerate the processing speed within a device for controlling a radio cell cluster (RNC) and to simplify the internal control structure and signal flow in the RNC architecture.

To achieve this object, on the basis of the method for controlling a radio cell cluster of the type referred to in the introduction, the invention proposes that the protocol stacks are allocated to different multiprocessor units comprising a plurality of processor groups each having a plurality of individual processors for the processing, where the precise allocation to an individual processor takes place as a function of which protocol stack the individual protocols belong to and which layer within the protocol stacks the protocols belong to.

Thus, in accordance with the invention, it is proposed that a plurality of processor modules of identical design, each comprising at least one individual processor, are arranged with equal entitlement one beside another, the processor modules being dimensioned in accordance with the required channel capacity, the required bandwidth, the number of nodes B to be supported, and the required overall width to the nodes B. The higher layer protocols (HL) are combined for all the interfaces and implemented on conventional standard processor modules

(telecom server) and contrived to correspond in number to the required channel capacity.

Due to the integration of the diversity handover (DHO) protocol and the transport protocols into the interface-oriented unit XPU/xx, the architecture of the RNC can be decisively simplified.

Since protocol stacks assigned to one of the interfaces are processed by specific processor modules, the control outlay for the processor modules can be minimised, the required message transmissions via the internal RNC switch can be considerably reduced, and the signal flow can thus be decisively simplified. Finally this leads to a substantial acceleration of the processing speed within the RNC.

The interface protocols described in the introduction apply to UMTS radio networks. By retaining the transport layer and exchanging the radio processing and higher layer protocols, the method according to the invention can be used not only for UMTS but also for any other telecommunications standards, in particular in GSM radio networks.

In accordance with an advantageous further development of the present invention it is proposed that the protocols which are processed within a protocol stack assigned to the interface to a switching device and which belong to a transport layer, a layer 1 or a layer 2, are allocated to at least one processor module (XPU/-Iu) according to the required channel capacity or channel width.

It is also proposed that the protocols which are processed within a protocol stack assigned to the interface to another RNC and which belong to a transport layer, a layer 1 or a layer 2 are allocated to at least one processor module according to the required channel capacity or channel width.